

# INSPECTION RECOMMENDATION

Fixed Equip. Reliability  
Equipment Reliability Group  
Richmond Refinery, Richmond CA

## I. RECO IDENTIFICATION:

RECO #:	349820/REC-96619	PPT #:	Date Written:
Plant:	D&R	<b>PRIORITY</b>	<b>RECO TYPE</b>
Plt. Eqp. #:	Equip. / Piping	<input type="checkbox"/> Immediate Action	<input type="checkbox"/> Information Only
Brass Tag#:		<input type="checkbox"/> Planned Shutdown	<input type="checkbox"/> Eng. Required
		<input type="checkbox"/> Next Opportunity	<input type="checkbox"/> Eng. Not Req'd
		<input type="checkbox"/> Routine	<input type="checkbox"/> Other
			<b>MAINT. ZONE</b>
			<input type="checkbox"/> Cracking
			<input type="checkbox"/> Hydro
			<input checked="" type="checkbox"/> D&R
			<input type="checkbox"/> Other
Service:			

## II. MANAGEMENT OF CHANGE:

**Level 1 Review Summary**

☐ NO Will new feeds, chemicals or catalysts be used? (See RI-313 for new chemicals, Oprs. Coord for new feeds)

☐ NO Will this work lead to operation outside established limits? Which Equipment? List Equipment if Yes

☐ NO Is this repair or replacement other than "In-kind" ?

☐ NO Does this involve developing new and / or modifying existing procedure?

☐ NO Does this work involve the addition of new equipment? (Send copy of the MOC form to EAD for new equipment)

☐ NO Will this impact upstream or downstream plants? If "YES" ... then which Plants? List Plant (s) if Yes

**If any of the above questions were answered "YES", then a Level 2 review is required.**

## III. RECO INFORMATION (Summary and Details):

One Line Summary:					
#	<b>Information / Recommendations</b>				
	<b><u>INFORMATION</u></b>				
	<p>During the 4Q 2011 Crude unit S/D the 4 S/C piping was found internally corroded at several locations. The washout header near P-1149A is below refinery recommended replacement thickness at CML 5. It was determined during the S/D this work could be performed OTR. An engineered minimum thickness was calculated that provided 14 years of remaining life to failure at the current corrosion rate. Thickness 11/05/2011 0.120 inches. Refinery recommended replacement thickness 0.140 inches calculated T-min. of 0.036 inches for structural integrity. MOC 24255 REC-96619</p>				
	<b><u>RECOMMENDATIONS</u></b>				
	<ol style="list-style-type: none"> <li>1. Replace washout spool at the earliest convince.</li> <li>2. Monitor spool while in place.</li> <li>3. Install continuous corrosion monitoring probes if left in place until 2016 S/D.</li> </ol> <p style="text-align: center;">Contact John Beauregard 2-5187 with questions or concerns.</p>				
	<p><b>**Material, Fabrication, Welding, Inspection and Testing shall be performed in accordance with the Richmond Refinery - Metals Craft, Quality Assurance Procedures.</b></p>				
<b>Cost Estimate by:</b>		<b>Total Man-Days</b>	<b>Cost per Man-Day</b>	<b>Total Labor Cost:</b>	<b>Total M'trl. Cost:</b>
		x	=	+	=

## IV. RECO APPROVAL (Enter Name & Phone):

	<b>Name</b>	<b>Phone</b>	
Area Inspector:	John Beauregard	#2-5187	Engineering:
Lead Inspector:	Dale Blume	#2-3301	Operations:

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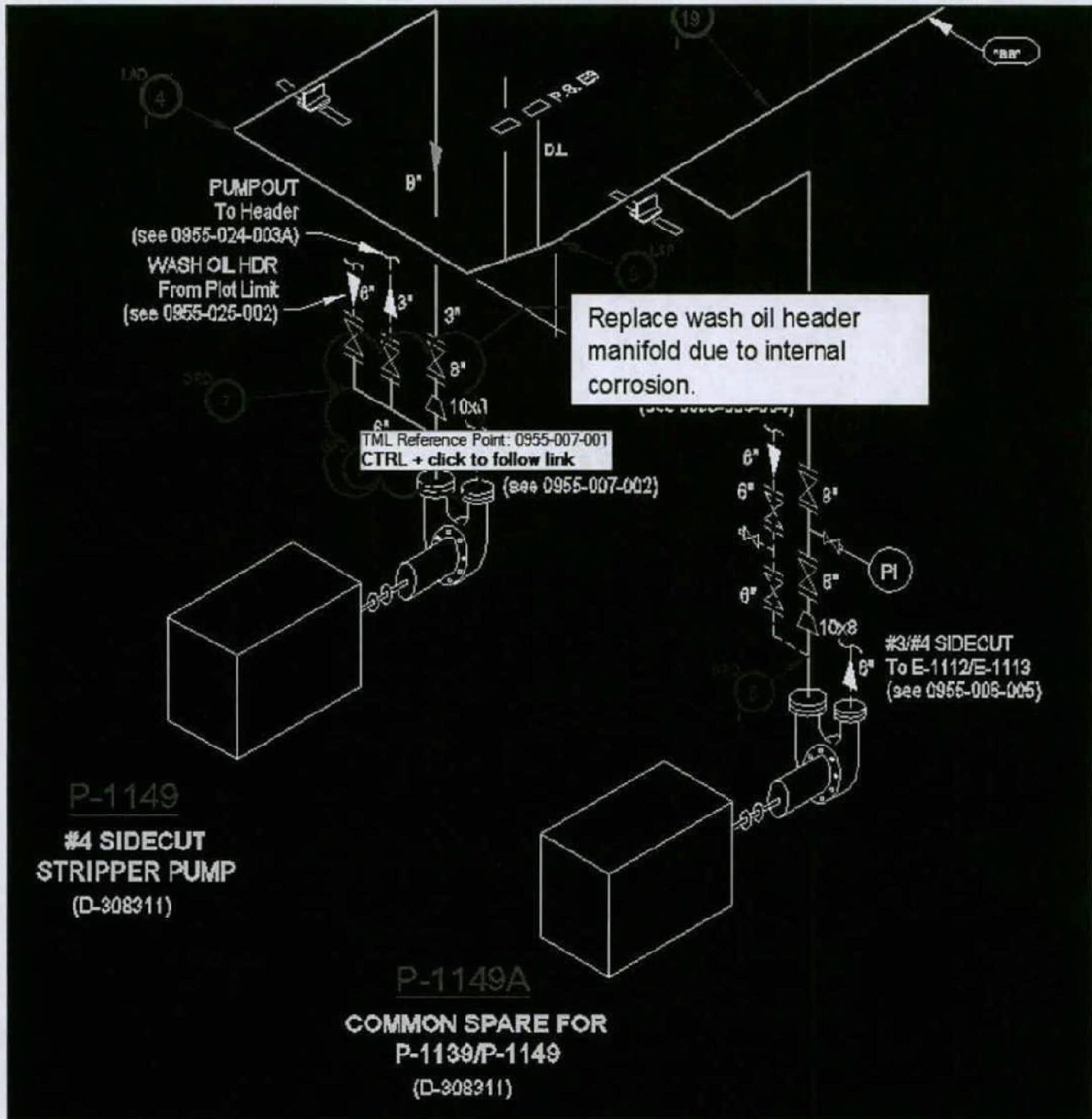
RECO #:  PPT #:  Date Written:

## III. RECO INFORMATION (PAGE 2):

#	Information / Recommendations																																
	<p><b>P-1145</b> P4 SIDEOUT STRIPPER PUMP Q-40001g</p> <p><b>P-1148A</b> COMMON SPARE FOR P-1146/P-1147 Q-40001g</p> <p><b>C-1148</b> ATMOSPHERIC COLUMN Q-40001g</p> <p>Replace wash oil header manifold due to internal corrosion.</p> <p><b>P4 SIDEOUT</b></p> <table border="1"> <tr> <td>STATUS: REVISIONS</td> <td>REMOVED</td> <td>REMOVED</td> <td>REMOVED</td> </tr> <tr> <td>REASON:</td> <td>REASON</td> <td>REASON</td> <td>REASON</td> </tr> <tr> <td>DATE:</td> <td>DATE</td> <td>DATE</td> <td>DATE</td> </tr> <tr> <td>BY:</td> <td>BY</td> <td>BY</td> <td>BY</td> </tr> <tr> <td>DATE:</td> <td>DATE</td> <td>DATE</td> <td>DATE</td> </tr> <tr> <td>BY:</td> <td>BY</td> <td>BY</td> <td>BY</td> </tr> <tr> <td>DATE:</td> <td>DATE</td> <td>DATE</td> <td>DATE</td> </tr> <tr> <td>BY:</td> <td>BY</td> <td>BY</td> <td>BY</td> </tr> </table> <p>THIS IS A HOT CIRCUIT. GAGE ON SHUT-DOWN ONLY.</p> <p>REASON FOR REVISION: <input type="text"/></p> <p>DATE: 10/1/01</p>	STATUS: REVISIONS	REMOVED	REMOVED	REMOVED	REASON:	REASON	REASON	REASON	DATE:	DATE	DATE	DATE	BY:	BY	BY	BY	DATE:	DATE	DATE	DATE	BY:	BY	BY	BY	DATE:	DATE	DATE	DATE	BY:	BY	BY	BY
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